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EXAMINER	
SPIELER, WILLIAM	
ART UNIT	PAPER NUMBER
2169	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/824,816	JOFFE ET AL.	
	Examiner	Art Unit	
	WILLIAM SPIELER	2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-13 and 30-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-13 and 30-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/14/04;6/24/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment and argument filed on March 24, 2008.

2. Claims 11 and 13 have been amended.

3. Claims 14 through 29 have been canceled.

4. Claims 41 and 42 are new claims.

5. All prior rejections made over art are sustained.

6. All pending claims are rejected.

Information Disclosure Statement

7. Both the information disclosure statement (IDS) submitted on April 14, 2004 and the IDS submitted on June 24, 2004 were improperly not considered by examiner. *See* 37 CFR 1.98(d)(1). Examiner apologizes for this error, and appreciates the effort taken by Applicant in furnishing additional copies of the references.

Examiner has considered those references not previously considered; any reference marked not considered has been previously considered in a prior office action. The only exception to the previous sentence is that Examiner has not considered the Nemirovsky reference listed in the IDS submitted on June 24, 2004, but only because it had been submitted prior in the IDS submitted on April 14, 2004, and has therefore been considered in light of the April 14, 2004 IDS..

No fee is required for either of the above-mentioned information disclosure

statements, as the pertinent requirements were indeed satisfied on the dates of their respective submissions.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 41 recites the limitation "said storage area." There is insufficient antecedent basis for this limitation in the claim.

For the purposes of examination, Examiner will assume that Applicant intended to have claim 41 depend on claim 31, not 30, noting that claim 31 provides sufficient antecedent basis for the term "said storage area," and further given the respective correspondences of the limitations between claims 31 and 37 on the one hand, and 41 and 42 on the other.

Claim Rejections - 35 USC § 102

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 11 and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass").

As per claim 11, Bass teaches:

a plurality of resources (claim 8), a plurality of tasks (claim 8), and allocating

each resource to the tasks so that after any one of the tasks has finished accessing any one of the resources, the task does not get access to the same resource until after every other one of the tasks has finished accessing the resource (claim 8) in a multi-tasking computer system.

Bass further teaches:

(1) the task attempting to access the resource, wherein attempting to access the resource comprises generating a signal indicating that the task is attempting to access the resource (Bass, col. 1, lines 40-45 “task request”);

(2) in response to the operation (1), the circuit allowing the task to access the resource if the resource is available to the task, the circuit not allowing the task to access the resource until the resource becomes available to the task (Bass, col. 1, lines 40-45 “traffic light”), where the traffic light inherently teaches the allowing/not allowing as claimed;

(3) the task accessing the resource when the circuit allows the task to access the resource (Bass, col. 1, lines 40-45 “traffic light"), where the traffic light analogy further teaches that the access will proceed upon a "green light";

wherein for any task T1 of said tasks and any resource R1 of said resources, if the task T1 attempts to access the resource R1 after the task T1 has already finished accessing the resource R1, and at least one other task T2 has not attempted to access the resource R1 after the task T1 has finished accessing the resource R1, then the circuit does not allow the task T1 to access the

resource R1 until the task T2 attempts to access the resource R1 and accesses the resource R1. (Bass, col. 1, lines 40-45 “A round robin technique gives each task the same priority and ensures that each task request gets access to system resources in turn. A simple traffic light is a good example of a round robin scheme wherein each lane gets its turn until every lane has had an opportunity and then the pattern repeats.”). It is an inherent feature of the round-robin system as described by Bass that the task T1 would not be allowed to access the resource R1 until the task T2 “has had an opportunity”, i.e., "attempts to access" the resource. Indeed, this last limitation is nothing more than a description of the operation of a round-robin schedule.

Claim 13 is the method claim corresponding to the system claim 11, and is rejected under the same reason set forth in connection to the rejection of claim 11 above.

Claim Rejections - 35 USC § 103

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 12 and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass") in view of Bahr et al., U.S. Patent No. 5,167,022 (hereinafter “Bahr”).

As per claim 12, the rejection of claim 11 is hereby incorporated, and further

Bass does not teach that "for at least one resource, each task starts accessing the resource by locking the resource to make it unavailable to any other task, and the task finishes accessing the resource by unlocking the resource." The analogous art of Bahr teaches the use of a mutual exclusion lock - or mutex - to accomplish this task.

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Bahr into the method of Bass to use a mutual exclusion lock because one of the ordinary skill in the art would want to lock the resources in this manner by way of a mutex, which would serve to ensure that the system remains stable as resources are being accessed in a predictable manner in a multi-tasking computer system.

Claim 35 is the method claim corresponding to the system claim 12, and is rejected under the same reason set forth in connection to the rejection of claim 12 above.

14. Claims 30 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass") in view of Nakade et al., U.S. Patent No. 4,847,751 (hereinafter "Nakade").

As per claim 30, the rejection of claim 11 is hereby incorporated, and further Bass does not teach that "each data unit is processed by a single one of the tasks which accesses at least two of said resources to process at least one of the data units."

The analogous art of Nakade, however, does. (Abstract).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Nakade into the method of Bass because one of the ordinary skill in the art would access at least two resources (namely the processor and memory) to process a data unit.

Claim 36 is the method claim corresponding to the system claim 30, and is rejected under the same reason set forth in connection to the rejection of claim 30 above.

15. Claims 31-33, 37-39, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass") in view of Nakade et al., U.S. Patent No. 4,847,751 (hereinafter “Nakade”) and Sheth et al., U.S. Patent No. 5,386,517 (hereinafter “Sheth”).

As per claim 31, the rejection of claim 30 is hereby incorporated, and further neither Bass nor Nakade teach that at least two of the resources accessed are storage area. The analogous art of Sheth teaches that a data processing task may access both a storage buffer and a command queue (Col. 24, lines 31-46).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Sheth into the method of Nakade and Bass because one of the ordinary skill in the art would use the storage

buffers and command queues store data unit processing information of multiple data units, and that these storage areas could be accessed by a task, and that having storage areas would be of obvious utility in processing data units.

As per claim 32, the rejection of claim 31 is hereby incorporated, and the analogous art of Sheth teaches that a data processing task may access both a storage buffer and a command queue (Col. 24, lines 31-46). Sheth further teaches reading the request from the request FIFO (Col. 24, lines 34-35) and writing one or more commands to the command FIFO (Col. 24, lines 43-45).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Sheth into the method of Bass because one of the ordinary skill in the art would recognize that FIFOs are an easier form of data storage to implement a a simple queue/dequeue operation as opposed to more complicated pointers and references, and that these are of particular use in serially-transmitted data such as requests and associated commands

As per claim 33, the rejection of claim 32 is hereby incorporated, and further the analogous art of Sheth teaches that requests can be made to an address. (Col. 28, line 38).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Sheth into the method of Bass because one of the ordinary skill in the art that the address requested may be

contained in the request as claimed, and that this would be a manner to encapsulate request information into a single object.

As per claim 41, the rejection of claim 31 is incorporated and further Sheth teaches:

the data processing information is associated with an order of data units, the order being the same for each said storage area (Col. 24, lines 31-45). Sheth teaches reading a message off a message handler FIFO (Col. 24, lines 31-33) then writing a message command to a system bus command FIFO (Col. 24, lines 43-45). Given the nature of a FIFO, the order of the data units on the respective FIFOs will inherently be the same: if a given data unit M_1 is after a second data unit M_2 on the message handler FIFO, these data units' respective data units on the command FIFO will be in the same order.

Claims 37-39 and 42 are the method claims corresponding to the system claim 31-33 and 41 respectively, and each is rejected under the same reason set forth in connection to the rejection of their corresponding claim above.

Response to Arguments

16. Applicant's arguments filed March 24, 2008 with respect to claims 32, 34, 38 and 40 have been fully considered and are persuasive. The objection of these claims has been withdrawn.

17. Applicant's arguments filed March 24, 2008 with respect to rejections under prior art have been fully considered but they are not persuasive.

As stated in the previous action, Bass, U.S. Pat. No. 5,487,170, discloses a round-robin system of scheduling requests for resources. "A round robin technique gives each task the same priority and ensures that each task request gets access to system resources in turn. A simple traffic light is a good example of a round robin scheme wherein **each lane gets its turn until every lane has had an opportunity** and then the pattern repeats." (Bass, col. 1, lines 40-45) (emphasis added). This literally reads on the claim language of claim 11 as originally presented.

The amendments to claim 11 fail to overcome the reference. The amended text merely recites the nature of a round robin schedule as applied to scheduling requests to access resources in detail. A request for access is identical to an attempt to access in a multi-tasking computer system. The system disclosed by Bass has requests handled by a scheduling mediator such that tasks do not directly access the resource; given the nature of the invention as claimed, it is impossible to state that the tasks in the present claim directly access the resource given the presence of the mediator as claimed: the circuit itself.

The amendments to claim 13 fail to overcome the rejection for the same reasons.

As the rejection of the independent claims 11 and 13 has not been overcome, Applicant's arguments as to claims 12 and 30-40 are non-persuasive.

Conclusion

18. Any new grounds of rejection were necessitated by amendment. Accordingly, **THIS ACTION IS MADE FINAL**. *See* MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM SPIELER whose telephone number is (571) 270-3883. The examiner can normally be reached on Monday to Thursday, 11 AM - 1 PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trujillo can be reached on (571) 272-3677. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William Spieler/
Examiner, Art Unit 2169

/James K. Trujillo/
Supervisory Patent Examiner, Art Unit 2169